

CONCLUSIONS AND RECOMMENDATIONS

The present situation of the Atlantic sturgeon *Acipenser sturio* L., 1758 within its historical range can be summarised as follows:

The status of the species throughout its range is considered highly endangered.

The only identified reproducing population is the one in France's Gironde River basin. Restoration attempts have been carried out for the past 20 years.

There is serious concern about the future of the species in the wild with regard to the decrease in effective population size and genetic heterogeneity due to loss of local stocks.

The Gironde basin population is considered the only available source for future re-introduction activities. Therefore, the integrity of this population is vital.

Additional material for reproduction could be obtained from individuals representing the remains of local populations. More accurate assessments on the current situation of these relict populations are necessary to update the species's present distribution area.

Although enhancement of the species's protection under the laws currently in force is hardly possible, the regulations derived from them are considered very insufficient.

Protection measures carried out to date for the sturgeon's habitat have proved insufficient.

Due to the species's long life cycle, restoration of populations might take many years. Therefore, long-term political commitment is a necessity for its successful restoration.

For these reasons, and in keeping with our knowledge of the underlying principles, the following actions should be effectuated in order to increase protection of the species, both at the population and the individual levels:

More intensive international co-operation is essential to restore the species, involving both *ex-situ* and *in-situ* measures. Sturgeon's inclusion in international projects on migratory fish management should be encouraged.

An immediate and effective application of existing regulations to protect the species in international waters is urgently demanded (Bern

Convention). The attempt to increase the protection of the diadromous species by listing it in the Bonn Convention should be supported.

Attempts to restore *A. sturio* in Europe must be integrated into existing and planned programmes on migratory fish management, and more generally into restoration and management plans involving water, the environment, and biodiversity for drainage basins. The inclusion of *A. sturio* as an important indicator for the restoration of riverine habitat is recommended.

To effectively mediate the necessity of the species's restoration, an intensification of public awareness programmes (both locally and internationally) is considered vital to generate social acceptance and increase political pressure. Means for adequate effectuation must be outlined, and an international network be put into place.

It is considered vital for future recovery programmes to strictly avoid activities that introduce species when the historical presence of this species must be considered doubtful or the species is an exotic within the range. For the implementation of re-introduction measures with material from other drainage areas, effective analysis of the extirpation of the species in waterbodies/watersheds is considered a necessary prerequisite.

It is urgently requested to legally integrate incidental captures into an *ex-situ* stock of the species to increase the measures to effectively save the remaining genetic plasticity of the species deriving from various origins. This should be in accordance with the safeguarding measures, and, if necessary, the EIFAC/ICES Code of Practice.

Therefore, more detailed information on the genetic structure of the specimens/populations available is considered to be of utmost importance. This should lead to the development of a breeding plan to maximise the genetic heterogeneity of the brood stock and, subsequently, the stocking material.

To increase our knowledge regarding the presence of *A. sturio*, it is necessary to update the status of the species by either a rewards programme or in connection with a survey, in intensive collaboration with fishermen.

A habitat analysis, highlighting habitat during early life stages, as well as the development of a management plan for required restoration, should be undertaken.

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